

WHAT IS CLAIMED IS

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1. A seek control method for carrying out  
a seek to a target position on a recording medium by  
moving a light beam spot which is irradiated on the  
recording medium, said recording medium having a  
10 first region in which information recording is made  
as variations in optical or magneto-optical  
properties and a second region in which information  
recording is made as variations in geometrical  
configuration, said first and second regions being  
15 provided in different areas on a recording surface  
of the recording medium, said seek control method  
comprising the step of:

(a) carrying out a control so that a seek  
operation from a seek start position within the  
20 first region to a seek target position within the  
second region and a seek operation from a seek start  
position within the second region to a seek target  
position within the first region differ.

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2. The seek control method as claimed in  
claim 1, further comprising the step of:

30 (b) judging a type of the recording medium,  
said step (a) carrying out a different seek  
operation when said step (b) judges that the  
recording medium is a high-density recording medium.

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3. The seek control method as claimed in claim 1, wherein said step (a) carries out a first seek operation from a seek start position to a first end position within the first region and in a vicinity of the second region when the seek start position is within the first region and a seek target position is within the second region, and carries out a second seek from the first end position to a second end position by regarding the second end position as the seek target position.

4. The seek control method as claimed in claim 1, wherein said step (a) carries out a seek from a seek start position to an end position in one seek operation by regarding the end position as a seek target position when the seek start position is within the second region and the seek target position is within the first region.

5. A seek control method for carrying out a seek to a target position on a recording medium by moving a light beam spot which is irradiated on the recording medium, said recording medium having a first region in which information recording is made as variations in optical or magneto-optical properties and a second region in which information recording is made as variations in geometrical configuration, said first and second regions being provided in different areas on a recording surface of the recording medium, said seek control method comprising the steps of:

- 5 (a) carrying out a control to carry out a first seek operation from a seek start position to a first end position within the first region and in a vicinity of the second region when the seek start position is within the first region and a seek target position is within the second region, and to carry out a second seek from the first end position to a second end position by regarding the second end position as the seek target position;
- 10 (b) setting control parameters to those for the first region during said first seek operation, and setting the control parameters to those for the second region during said second seek operation.

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- 20 6. The seek control method as claimed in claim 5, wherein the control parameters include at least one of a gain of a tracking error signal, an off-track detection slice, and a power of the light beam.

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- 30 7. The seek control method as claimed in claim 5, wherein said step (a) carries out a seek from a seek start position to an end position in one seek operation by regarding the end position as a seek target position when the seek start position is within the second region and the seek target position is within the first region, and said step (b) sets the control parameters to those for the first region during said one seek operation.
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8. The seek control method as claimed in claim 5, further comprising the step of:

5 (c) judging whether a present position is within the first region or the second region based on an amplitude of a tracking error signal when a servo abnormality is detected in an on-track state, setting a gain of the tracking error signal to that for the first region if the present position is within the first region, and setting the gain of the tracking error signal to that for the second region if the present position is within the second region.

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9. The seek control method as claimed in claim 5, wherein said step (b) sets a gain of a tracking error signal to that for the first region after a read within the second region ends.

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10. The seek control method as claimed in claim 1, further comprising the step of:

25 (b) judging whether a present position is within the first region or the second region based on an amplitude of a tracking error signal when a servo abnormality is detected in an on-track state, setting a gain of the tracking error signal to that for the first region if the present position is within the first region, and setting the gain of the tracking error signal to that for the second region if the present position is within the second region.

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11. The seek control method as claimed in claim 1, further comprising the step of:

- 5 (b) setting a gain of a tracking error signal to that for the first region after a read within the second region ends.

10 12. A storage apparatus for carrying out a seek to a target position on a recording medium by moving a light beam spot which is irradiated on the recording medium, said recording medium having a  
15 first region in which information recording is made as variations in optical or magneto-optical properties and a second region in which information recording is made as variations in geometrical  
20 configuration, said first and second regions being provided in different areas on a recording surface of the recording medium, said storage apparatus comprising:

a control section carrying out a control so that a seek operation from a seek start position within the first region to a seek target position  
25 within the second region and a seek operation from a seek start position within the second region to a seek target position within the first region differ.

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13. The storage apparatus as claimed in claim 12, further comprising:

- 35 a judging section judging a type of the recording medium,  
said control section carrying out a different seek operation when said judging section judges that

the recording medium is a high-density recording medium.

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14. The storage apparatus as claimed in claim 12, wherein said control section carries out a first seek operation from a seek start position to a first end position within the first region and in a vicinity of the second region when the seek start position is within the first region and a seek target position is within the second region, and carries out a second seek from the first end position to a second end position by regarding the second end position as the seek target position.

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15. The storage apparatus as claimed in claim 12, wherein said control section carries out a seek from a seek start position to an end position in one seek operation by regarding the end position as a seek target position when the seek start position is within the second region and the seek target position is within the first region.

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16. The storage apparatus as claimed in claim 14, further comprising:

a setting section setting control parameters to those for the first region during the first seek operation and setting the control parameters to those for the second region during the second seek

operation.

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17. The storage apparatus as claimed in claim 16, wherein the control parameters include at least one of a gain of a tracking error signal, an off-track detection slice, and a power of the light  
10 beam.

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18. The storage apparatus as claimed in claim 12, further comprising:

a setting section judging whether a present position is within the first region or the second region based on an amplitude of a tracking error  
20 signal when a servo abnormality is detected in an on-track state, setting a gain of the tracking error signal to that for the first region if the present position is within the first region, and setting the gain of the tracking error signal to that for the  
25 second region if the present position is within the second region.

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19. The storage apparatus as claimed in claim 14, wherein the first end position is within the first region and separated by at least one or more tracks from a boundary of the first region and  
35 the second region, and is closer to the second region than the seek start position.

20. The storage apparatus as claimed in claim 14, further comprising:

a section carrying out a seek to an arbitrary track within the first region by switching and  
5 setting a gain of a tracking error signal to that for the first region when a read within the second region ends.

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